

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
SHERMAN DIVISION**

R2 Solutions LLC,

Plaintiff,

v.

Workday, Inc.,

Defendant.

Civil Action No. 4:21-cv-00093

Jury Trial Demanded

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff R2 Solutions LLC files this Complaint against Workday, Inc. for infringement of U.S. Patent Nos. 8,190,610 (“the ’610 patent”) and 8,341,157 (“the ’157 patent”). The ’610 patent, and the ’157 patent are referred to collectively as the “patents-in-suit.”

THE PARTIES

1. Plaintiff R2 Solutions LLC (“R2 Solutions”) is a Texas limited liability company located in Frisco, Texas.

2. Defendant Workday, Inc. (“Workday”) is a Delaware corporation with a regular and established place of business located at 3001 Dallas Pkwy. #600, Frisco, Texas 75034. Workday may be served with process through its registered agent, C T Corporation System, at 1999 Bryan St., Ste. 900, Dallas, Texas 75201.

3. Workday is a provider of cloud-based, financial management and human capital management software. Workday sells subscriptions to its platform to hundreds of companies, many of which are located in this District. Workday touts its platform as a solution to the burden of traditional enterprise software that requires costly integrations with other on-site systems:

Organizations should be able to rely on their systems to guide them through these changes, but legacy on-premise systems are inflexible. Third-party bolt-on solutions require complex and costly integrations while offering limited functionality and require synchronization of data across applications.

Workday Human Capital Management (HCM) is fundamentally different. Built as a single system with a single source for data, single security model, and single user experience, it offers organizations a cloud-based system that evolves to meet changing business objectives in a changing world.

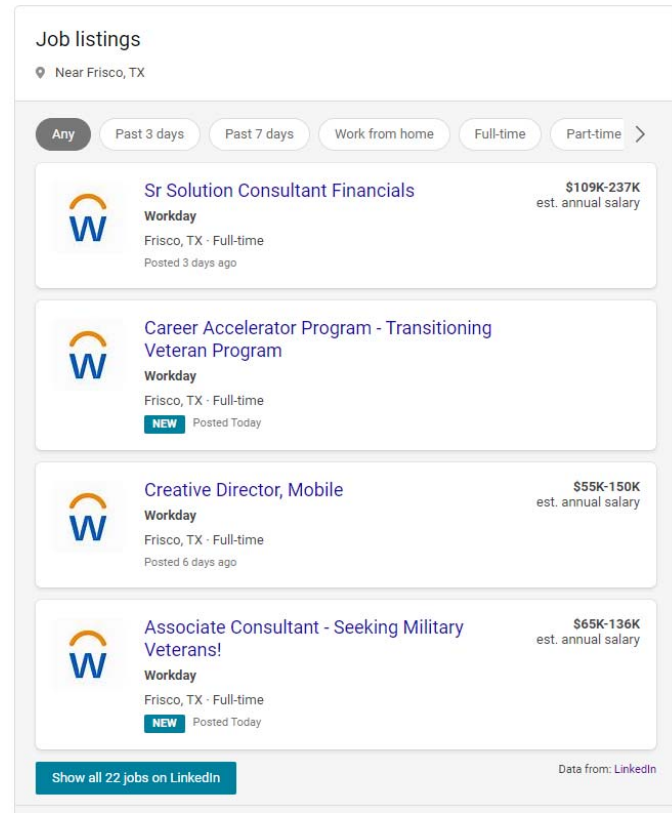
The user-friendly, global system also ensures that customers are always on the latest version with up-to-date capabilities, whether they're on a browser or mobile device.

<https://www.workday.com/content/dam/web/en-us/documents/datasheets/datasheet-workday-human-capital-management.pdf>.

JURISDICTION AND VENUE

4. This action arises under the patent laws of the United States, 35 U.S.C. § 101, *et seq.* This Court's jurisdiction over this action is proper under the above statutes, including 35 U.S.C. § 271, *et seq.*, 28 U.S.C. § 1331 (federal question jurisdiction), and 28 U.S.C. § 1338 (jurisdiction over patent actions).

5. This Court has personal jurisdiction over Workday in accordance with due process and/or the Texas Long Arm Statute because, among other things, Workday does business in this State by, among other things, "recruit[ing] Texas residents, directly or through an intermediary located in this state, for employment inside or outside this state." TEX. CIV. PRAC. & REM. CODE § 17.042(3):



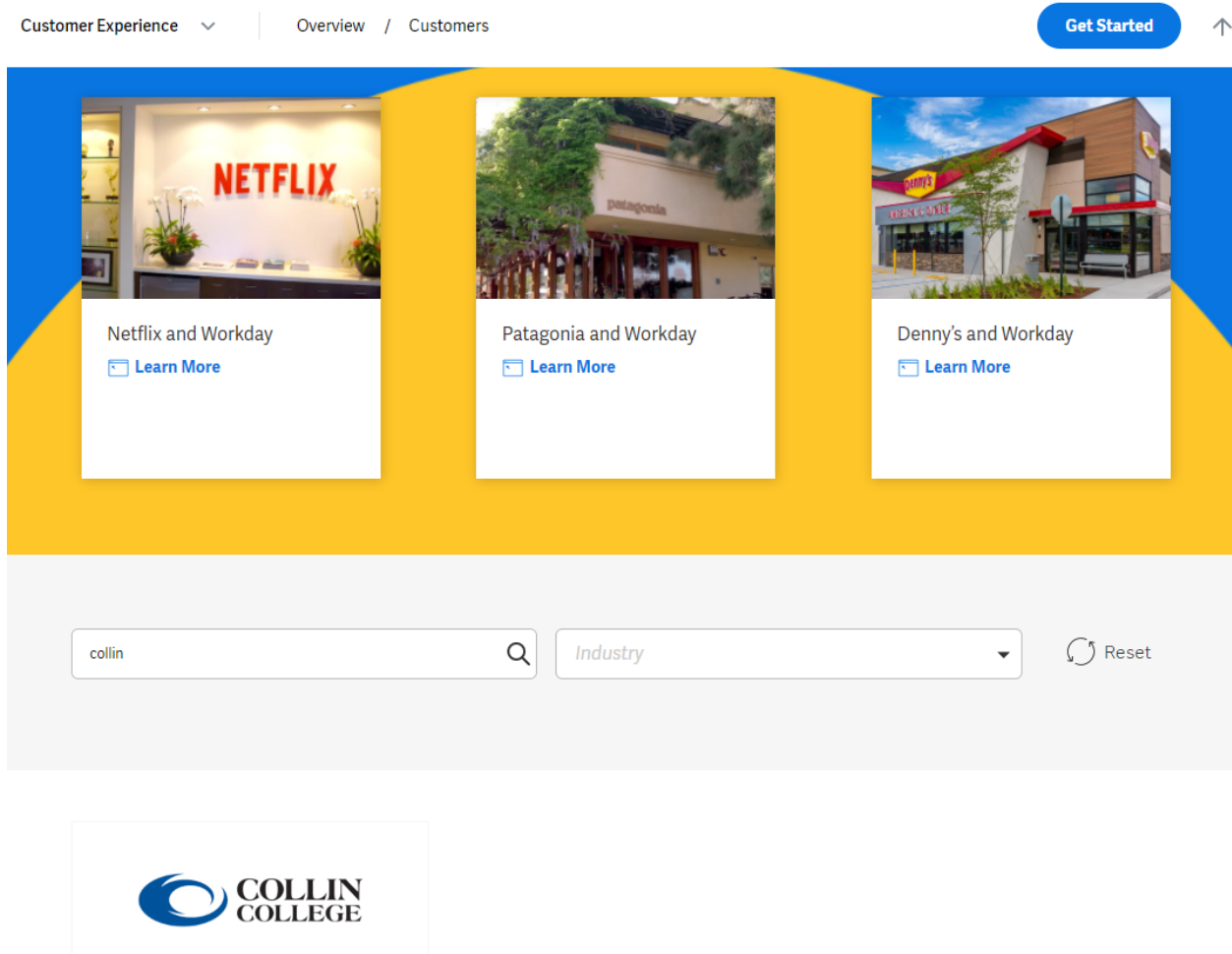
<https://www.bing.com/search?q=workday+jobs+frisco+tx&cvid=d0b68a5be2e24779a69ba6d7526dad8b8&FORM=ANAB01&PC=DCTS>.

6. Further, this Court has personal jurisdiction over Workday because it has engaged, and continues to engage, in continuous, systematic, and substantial activities within this State, including the substantial marketing and sale of products and services within this State and this District. Indeed, this Court has personal jurisdiction over Workday because it has committed acts giving rise to R2 Solutions' claims for patent infringement within and directed to this District, has derived substantial revenue from its goods and services provided to individuals in this State and this District, and maintains regular and established places of business in this District, including at least its office in Frisco.

7. Relative to patent infringement, Workday has committed and continues to commit acts in violation of 35 U.S.C. § 271, and has made, used, marketed, distributed, offered for sale,

and/or sold infringing products and services in this State, including in this District, and otherwise engaged in infringing conduct within and directed at, or from, this District. Such infringing products and services include the Workday Talent Acquisition platform. Such products and services have been and continue to be offered for sale, distributed to, sold, and used in this District, and the infringing conduct has caused, and continues to cause, injury to R2 Solutions, including injury suffered within this District. These are purposeful acts and transactions in this State and this District such that Workday reasonably should know and expect that it could be haled into this Court because of such activities.

8. Venue is proper in this District under 28 U.S.C. §§ 1391 and 1400(b) because Workday has a regular and established place of business in this District and has committed acts of infringement in this District. Workday's regular and established place of business in this District includes, at least, its Frisco, Texas corporate office. Paragraphs 2–3, which detail Workday's presence in this District, are herein incorporated by reference. Indeed, Workday conducts business in this District, including marketing and selling its platform to organizations in the District. For example, Workday's website lists Collin College as one of its customers.



<https://www.workday.com/en-us/customer-experience/customers.html?q=collin>. Collin College is located in this District at 2200 W University Dr, McKinney, Texas 75071. On information and belief, the software platform that Workday sells to Collin College, and other organizations located in this District, operates in an infringing manner. For example, use of the Workday platform in the District constitutes one or more steps of the methods claimed in the patents-in-suit.

BACKGROUND

9. The patents-in-suit were filed by Yahoo! Inc. (“Yahoo!”) between 2006 and 2009. At the time, Yahoo! was a leading Internet communications, commerce, and media company. Yahoo! invested billions of dollars in research and development over this period, filing hundreds

of patent applications each year to cover the innovative computing technologies emerging from its expansive research and development efforts.

10. Yahoo! began as a directory of websites that two Stanford graduate students developed as a hobby. The name “Yahoo” stands for “Yet Another Hierarchical Official Oracle,” a nod to how the original Yahoo! database was arranged hierarchically in layers of subcategories. From this initial database, Yahoo! would develop and promulgate numerous advancements in the field of data storage and recall.

11. For example, in 1995, Yahoo! introduced Yahoo! Search. This software allowed users to search the Yahoo! directory, making it the first popular online directory search engine. This positioned Yahoo! as the launching point for most users of the World Wide Web. By 1998, Yahoo! had the largest audience of any website or online service.

12. However, the early iterations of Yahoo! Search did not operate like a modern search engine because Yahoo! Search was only a directory. Yahoo! Search first integrated a Web crawling engine in 2000. Yahoo! Search used Google’s Web crawling engine from 2000–2004. During this time, Yahoo! was developing its own Web search technologies. Yahoo! deployed its own Web crawler in early 2004. The engine, known as Slurp, allowed Yahoo! to collect documents from the Web and build a searchable index. The patents-in-suit relate to innovations associated with Yahoo! Search that were developed and implemented during this period, which enabled Yahoo! to become Google’s biggest competitor in the search engine space.

THE PATENTS-IN-SUIT

13. The ’610 patent is entitled, “MapReduce for Distributed Database Processing.” The ’610 patent lawfully issued on May 29, 2012 and stems from U.S. Patent Application No.

11/539,090, which was filed on October 5, 2006. A copy of the '610 patent is attached hereto as Ex. 1.

14. The '157 patent is entitled, "System and Method for Intent-Driven Search Result Presentation." The '157 patent lawfully issued on December 25, 2012 and stems from U.S. Patent Application No. 12/533,299, which was filed on July 31, 2009. A copy of the '157 patent is attached hereto as Ex. 2.

15. R2 Solutions is the owner of the patents-in-suit with all substantial rights, including the exclusive right to enforce, sue, and recover damages for past and future infringements.

16. The claims of the patents-in-suit are directed to patent eligible subject matter under 35 U.S.C. § 101. They are not directed to abstract ideas, and the technologies covered by the claims consist of ordered combinations of features and functions that, at the time of invention, were not, alone or in combination, well-understood, routine, or conventional.

17. Indeed, the specifications of the patents-in-suit disclose shortcomings in the prior art and then explain, in detail, the technical way the claimed inventions resolve or overcome those shortcomings. The '610 patent explains, for example, that "conventional MapReduce implementations do not have facility to efficiently process data from heterogeneous sources" and that "it is impractical to perform joins over two relational tables that have different schemas." '610 patent at 3:9–20. To solve these problems, the '610 patent discloses an invention where user-configurable MapReduce functions are applied to data from heterogeneous data sources (having different schema), followed by application of a reduce function on intermediate data based on a common key. As the specification explains:

[T]he MapReduce concept may be utilized to carry out map processing independently on two or more related datasets (e.g., related by being characterized by a common key) even when the related data sets are heterogeneous with respect

to each other, such as data tables organized according to different schema. The intermediate results of the map processing (key/value pairs) for a particular key can be processed together in a single reduce function by applying a different iterator to intermediate values for each group. In this way, operations on the two or more related datasets may be carried out more efficiently or in a way not even possible with the conventional MapReduce architecture.

Id. at 8:47–58.

18. Such a solution is embodied, for example, in Claim 1 of the '610 patent:

A method of processing data of a data set over a distributed system, wherein the data set comprises a plurality of data groups, the method comprising:

partitioning the data of each one of the data groups into a plurality of data partitions that each have a plurality of key-value pairs and providing each data partition to a selected one of a plurality of mapping functions that are each *user-configurable* to independently output a plurality of lists of values for each of a set of keys found in such map function's corresponding data partition to form corresponding intermediate data for that data group and identifiable to that data group, *wherein the data of a first data group has a different schema than the data of a second data group* and the data of the first data group is mapped differently than the data of the second data group so that different lists of values are output for the corresponding different intermediate data, *wherein the different schema and corresponding different intermediate data have a key in common*; and

reducing the intermediate data for the data groups to at least one output data group, including processing the intermediate data for each data group in a manner that is defined to correspond to that data group, so as to result in a *merging of the corresponding different intermediate data based on the key in common*,

wherein the mapping and reducing operations are performed by a distributed system.

(emphases added).

19. The inventions described and claimed in the '610 patent improve the speed, efficiency, effectiveness, and functionality of computer systems. Moreover, the inventions provide

an improvement in computer functionality rather than economic or other tasks for which a computer is used in its ordinary capacity. For example, the '610 patent states that the disclosed inventions “enhance[] the utility of the MapReduce programming methodology.” *Id.* at Abstract, 1:31–33, 1:66–2:2.

20. The '610 patent specification goes on to explain that “[t]he intermediate results of the map processing (key/value pairs) for a particular key can be processed together in a single reduce function by applying a different iterator to intermediate values for each group.” *Id.* at Abstract, 1:37–39, 2:4–8. And the specification discusses the use of multiple processors to perform processing functions in parallel. *See id.* As a result, computer functionality is improved. *Id.* at 1:42–44.

21. Additionally, the claimed inventions provide for more dynamic, customizable, and efficient processing of large sets of data. *See, e.g., id.* at 2:58–61, 4:18–22. The inventions provide optimization, which increases efficiency and reduces processor execution time. *See id.* at 2:64–67 (explaining that the claimed invention “can make the processing of the output data more efficient and/or convenient”). As the specification describes, the combiner function in the claimed invention “helps reduce the network traffic and speed up the total execution time.” *Id.* at 3:1–8.

22. The specification also discusses the use of configurable settings to reduce processing overhead. *See, e.g., id.* at 4:60–62, 5:33–39.

23. Relative to the '157 patent, the specification explains that if, as in the case of traditional search engines, the “engine simply regards a web query as, for example, a ‘bag of words’, the search engine will search for web pages and other data objects (e.g., images, audio files, text files) that contain, or are otherwise associated with, the individual words within the

query.” ’157 patent at 4:1–5. However, simply treating a user query as a “bag of words” may yield results that do not align with the purpose of the user’s search. Thus, the specification teaches:

When a user submits a query to a web search service such as the Yahoo! or Google search services, the user generally has some intent. The user’s intent may simply be to explore information available on the web relating to one or more topics, for example, a user may simply wish to browse web sites relating to “rainforests” without having any specific purpose in mind. Commonly, however, a user has a more focused purpose in mind. By entering a “rainforest” query, a user may wish to obtain information on traveling to a rainforest, or on purchasing CDs or books having rainforests as a subject or purchasing rainforest themed merchandise such as clothing or accessories.

Id. at 3:46–57.

24. While other search engines existing at the time could tailor search results by ranking the results and displaying each result with a title and brief abstract taken from the document, the ’157 patent explains how “results could be significantly enhanced if the likely intent of the query is known.” *Id.* at 4:16–17. Rather than return all documents having matching keyword—i.e., by using traditional indexing methods—a narrower set of results can be returned if the search results are “ranked such that results that are more relevant to the user’s intent appear at or near the top of the search results.” *Id.* at 4:17–19. Interpretation of the result set is further improved because the results display may be customized based on the user’s search intent. *See id.* at 19–26.

25. Indeed, the claims of the ’157 patent provide just such a solution to the problem of identifying relevant search results using traditional document indexing methods. For example, Claim 1 of the ’157 patent discloses a method comprising:

receiving, over a network, a query from a user, the query comprising at least one query token;

analyzing the query, using at least one computing device, to identify at least one query keyword;

determining, at least the one computing device, *a plurality of intents from the at least one keyword*, each of the plurality of intents indicates a type of information regarding the query keyword that is likely to be desired by a user submitting the query;

classifying the query, using the at least one computing device, *into at least one of the plurality of intents*;

identifying, using the at least one computing device, a plurality of data objects available over the network that match the at least one query keyword;

assigning, using the at least one computing device, *at least one of the plurality of intents* to at least some of the plurality of data objects;

ranking, using the at least one computing device, the plurality of data objects;

building a result, using the at least one computing device, using the ranked plurality of data objects, the result comprises a plurality of display entries, *at least one display entry customized to a respective assigned intent is constructed for each of the ranked plurality of data objects*; and

transmitting the result, over the network, to the user.

(emphases added).

26. The inventions described and claimed in the '157 patent improve the speed, efficiency, effectiveness, and functionality of computer systems. Moreover, the inventions provide an improvement in computer functionality rather than economic or other tasks for which a computer is used in its ordinary capacity. For example, by ranking documents based on intent, rather than using “a traditional {query,document} score,” the probability is greater that a relevant result will be in the final result set presented to the user. *See id.* at 12:7–22. This reduces the number of queries that must be processed in order to return relevant results to the user. As a result, the processor is free to allocate more resources to other tasks.

27. In essence, each of the patents-in-suit relate to novel and non-obvious inventions in the fields of search engines and database structures.

COUNT I
INFRINGEMENT OF U.S. PATENT NO. 8,190,610

28. R2 Solutions incorporates paragraphs 1–13, 15–22, and 27 herein by reference.

29. This cause of action arises under the patent laws of the United States, and in particular, 35 U.S.C. §§ 271, *et seq.*

30. R2 Solutions is the owner of the '610 patent with all substantial rights to the '610 patent, including the exclusive right to enforce, sue, and recover damages for past and future infringements.

31. The '610 patent is valid and enforceable and was duly issued in full compliance with Title 35 of the United States Code.

Direct Infringement (35 U.S.C. § 271(a))

32. Workday has directly infringed and continues to directly infringe one or more claims of the '610 patent in this District and elsewhere in Texas and the United States.

33. To this end, Workday has infringed and continues to infringe, either by itself or via an agent, at least claims 1–5, 17–21, 33–34, and 40–41 of the '610 patent by, among other things, making, offering to sell, selling, testing and/or using the Workday data analytics system built on Apache Hadoop.

34. Attached hereto as Ex. 3, and incorporated herein by reference, is a representative claim chart detailing how Workday infringes the '610 patent.

35. Workday is liable for its infringements of the '610 patent pursuant to 35 U.S.C. § 271.

Damages

36. R2 Solutions has been damaged as a result of Workday's infringing conduct described in this Count. Workday is, thus, liable to R2 Solutions in an amount that adequately compensates it for Workday's infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT II
INFRINGEMENT OF U.S. PATENT NO. 8,341,157

37. R2 Solutions incorporates paragraphs 1–12, 14–16, and 23–27 herein by reference.

38. This cause of action arises under the patent laws of the United States, and in particular, 35 U.S.C. §§ 271, *et seq.*

39. R2 Solutions is the owner of the '157 patent with all substantial rights to the '157 patent, including the exclusive right to enforce, sue, and recover damages for past and future infringements.

40. The '157 patent is valid and enforceable and was duly issued in full compliance with Title 35 of the United States Code.

Direct Infringement (35 U.S.C. § 271(a))

41. Workday has directly infringed and continues to directly infringe one or more claims of the '157 patent in this District and elsewhere in Texas and the United States.

42. To this end, Workday has infringed and continues to infringe, either by itself or via an agent, at least claims 1–5 and 11 of the '157 patent by, among other things, making, offering to sell, selling, testing and/or using Workday Talent Acquisition.

43. Attached hereto as Ex. 4, and incorporated herein by reference, is a representative claim chart detailing how Workday infringes the '157 patent.

44. Workday is liable for its infringements of the '157 patent pursuant to 35 U.S.C. § 271.

Damages

45. R2 Solutions has been damaged as a result of Workday's infringing conduct described in this Count. Workday is, thus, liable to R2 Solutions in an amount that adequately compensates it for Workday's infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

DEMAND FOR A JURY TRIAL

R2 Solutions demands a trial by jury on all issues triable of right by jury pursuant to Rule 38 of the Federal Rules of Civil Procedure.

PRAYER FOR RELIEF

R2 Solutions respectfully requests that this Court enter judgment in its favor and grant the following relief:

- (i) Judgment and Order that Workday has directly infringed one or more claims of each of the patents-in-suit;
- (ii) Judgment and Order that Workday must pay R2 Solutions past and future damages under 35 U.S.C. § 284, including supplemental damages arising from any continuing, post-verdict infringement for the time between trial and entry of the final judgment, together with an accounting, as needed, as provided under 35 U.S.C. § 284;
- (iii) Judgment and Order that Workday must pay R2 Solutions reasonable ongoing royalties on a go-forward basis after Final Judgment;

- (iv) Judgment and Order that Workday must pay R2 Solutions pre-judgment and post-judgment interest on the damages award;
- (v) Judgment and Order that Workday must pay R2 Solutions' costs;
- (vi) Judgment and Order that the Court find this case exceptional under the provisions of 35 U.S.C. § 285 and accordingly order Workday to pay R2 Solutions' attorneys' fees; and
- (vii) Such other and further relief as the Court may deem just and proper.

Dated: January 29, 2021

Respectfully submitted,

/s/ Edward R. Nelson III

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